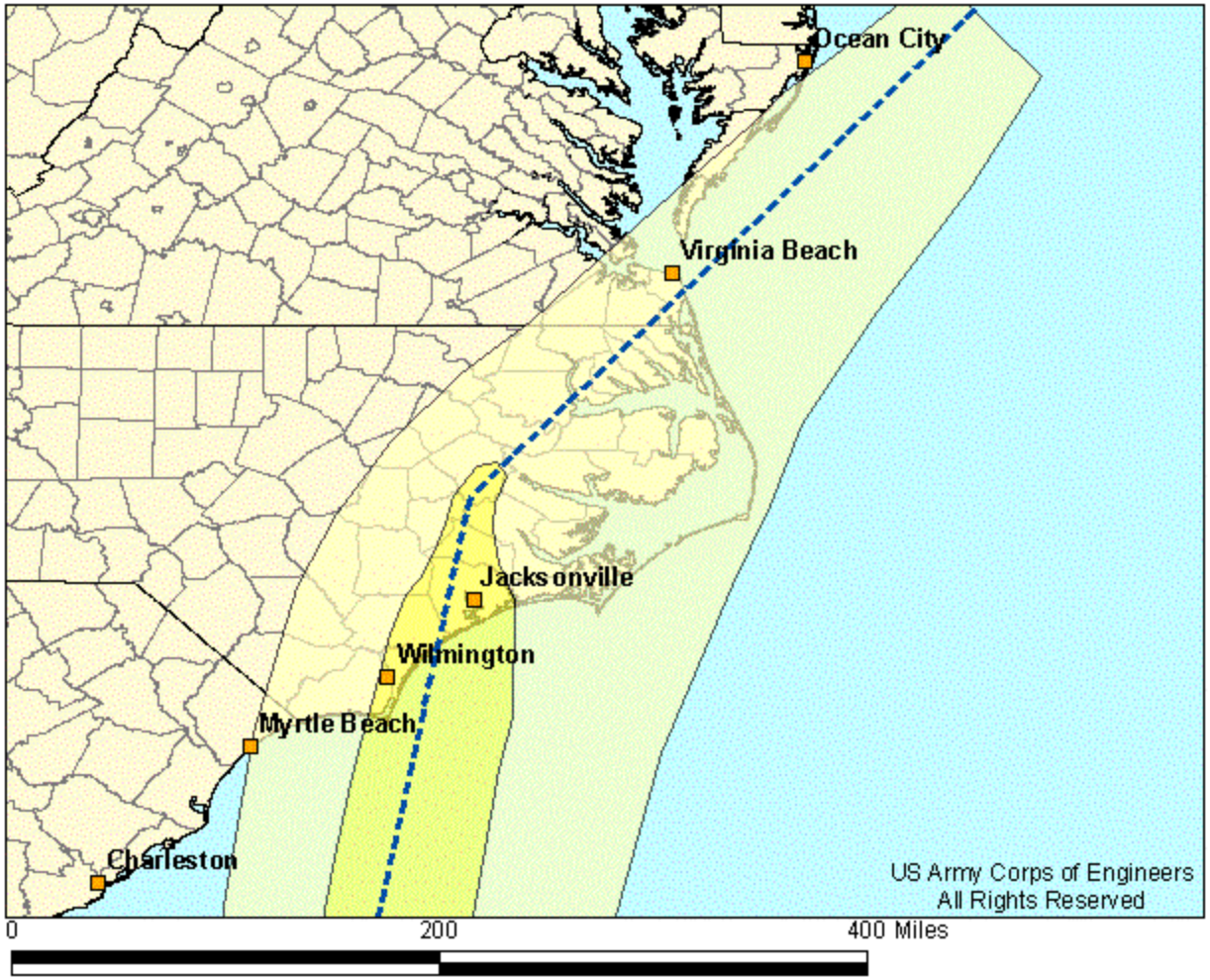
Hurricane Hanna Projected Damage Areas

US Army Corps of Engineers

Landfall Expected In About **40** Hours

For Planning Purposes Only!



Post Landfall Projected Damage Areas

This model is based on a Category 1 storm making landfall near Topsail Beach, NC.

Forecast Track

Projected Damage Areas

- CAT 0-type damage
- CAT 1-type damage
- CAT 2-type damage
- CAT 3-type damage
- CAT 4-type damage
- CAT 5-type damage

Information provided on this page displays a Category 1 storm making landfall near Topsail Beach, NC. These projections are based on information from the NHC (1100 EDT 09/04/2008) forecast.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

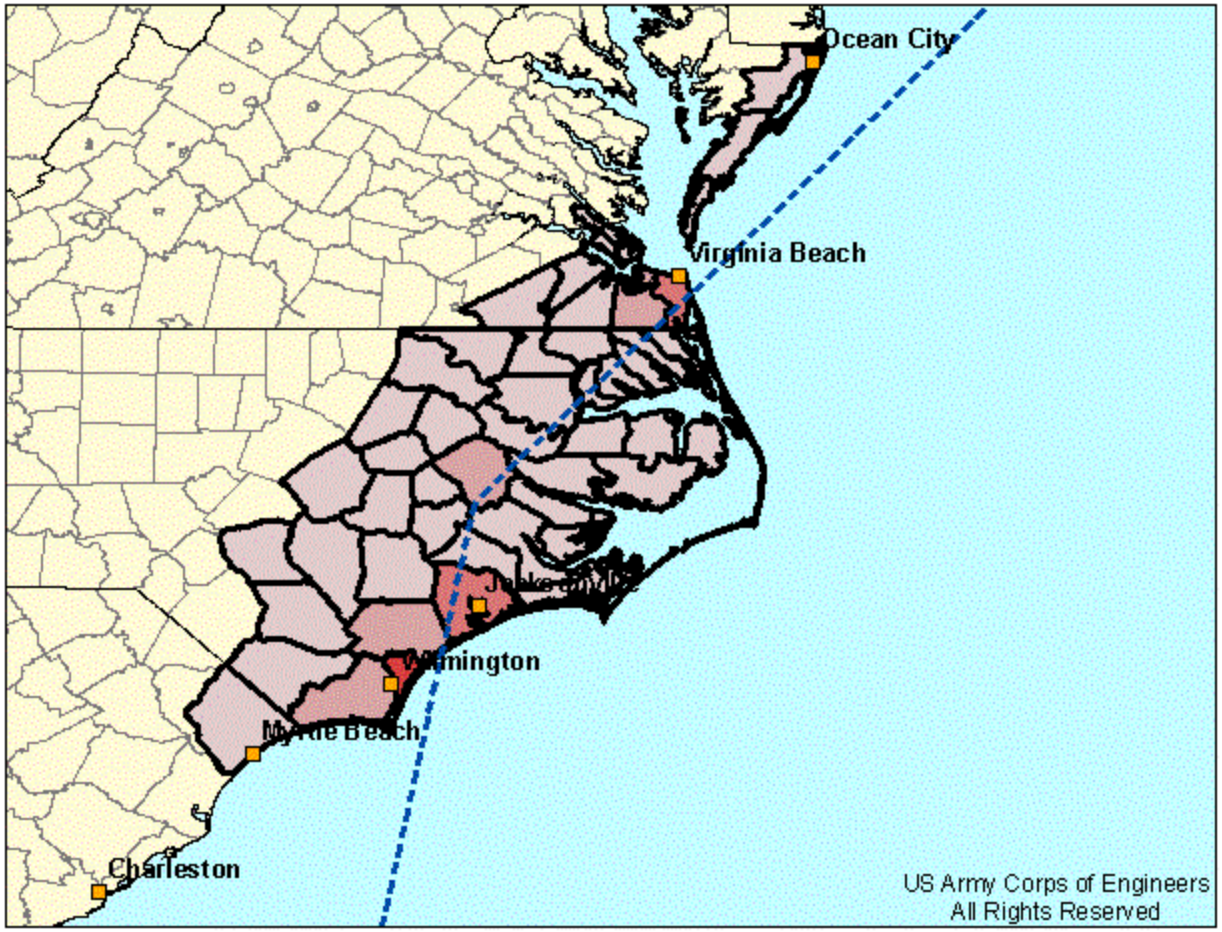
Hurricane Hanna Projected Damage Areas	
Generated By: Siemsen, LRL 1130 EDT 09/04/2008	
Sources: HURREVAC LRL-DEBRIS	Page 1 of 13

US Army Corps of Engineers

Hurricane Hanna Debris Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!



Post Landfall Debris Model Results

North Carolina - 1,910,000 Yards
Virginia - 788,000 Yards
South Carolina - 55,000 Yards
Maryland - 2,000 Yards

Model results per County on following page

This model is based on a Category 1 storm making landfall near Topsail Beach, NC.

Forecast Track

Debris

- < 100,000 cubic yards
- 100,000 - 249,999 cubic yards
- 250,000 - 499,999 cubic yards
- 500,000 - 999,999 cubic yards
- >1,000,000 cubic yards

Information provided on this page displays a Category 1 storm making landfall near Topsail Beach, NC. These projections are based on information from the NHC (1100 EDT 09/04/2008) forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Hanna Debris Model	
Generated By: Siemsen, LRL 1130 EDT 09/04/2008	
Sources: HURREVAC LRL-DEBRIS	Page 2 of 13

US Army Corps of Engineers

Hurricane Hanna Debris Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Maryland		Worcester	2,000
Maryland	2,000		
North Carolina		Beaufort	37,000
		Bertie	16,000
		Bladen	11,000
		Brunswick	112,000
		Camden	7,000
		Carteret	43,000
		Chowan	9,000
		Columbus	18,000
		Craven	74,000
		Cumberland	< 1,000
		Currituck	14,000
		Dare	22,000
		Duplin	41,000
		Edgecombe	23,000
		Gates	9,000
		Greene	10,000
		Halifax	5,000
		Hertford	16,000
		Hyde	7,000
		Johnston	3,000
		Jones	29,000
		Lenoir	45,000
		Martin	15,000
		Nash	< 1,000
		New Hanover	542,000
		Northampton	4,000
		Onslow	328,000
		Pamlico	10,000

State	Yards per State	County	Yards per County
North Carolina		Pasquotank	23,000
(continued)		Pender	103,000
		Perquimans	9,000
		Pitt	190,000
		Sampson	26,000
		Tyrrell	5,000
		Washington	10,000
		Wayne	61,000
		Wilson	33,000
North Carolina	1,910,000		
South Carolina		Horry	55,000
South Carolina	55,000		
Virginia		Accomack	12,000
		Chesapeake city	119,000
		Franklin City	< 1,000
		Hampton City	89,000
		Isle Of Wight	5,000
		Newport News city	30,000
		Norfolk City	148,000
		Northampton	8,000
		Poquoson City	3,000
		Portsmouth city	67,000
		Southampton	< 1,000
		Suffolk City	43,000
		Virginia Beach city	264,000
		York	< 1,000
Virginia	788,000		

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Hurricane Hanna Debris Model

Generated By:
Siemsen, LRL 1130 EDT 09/04/2008

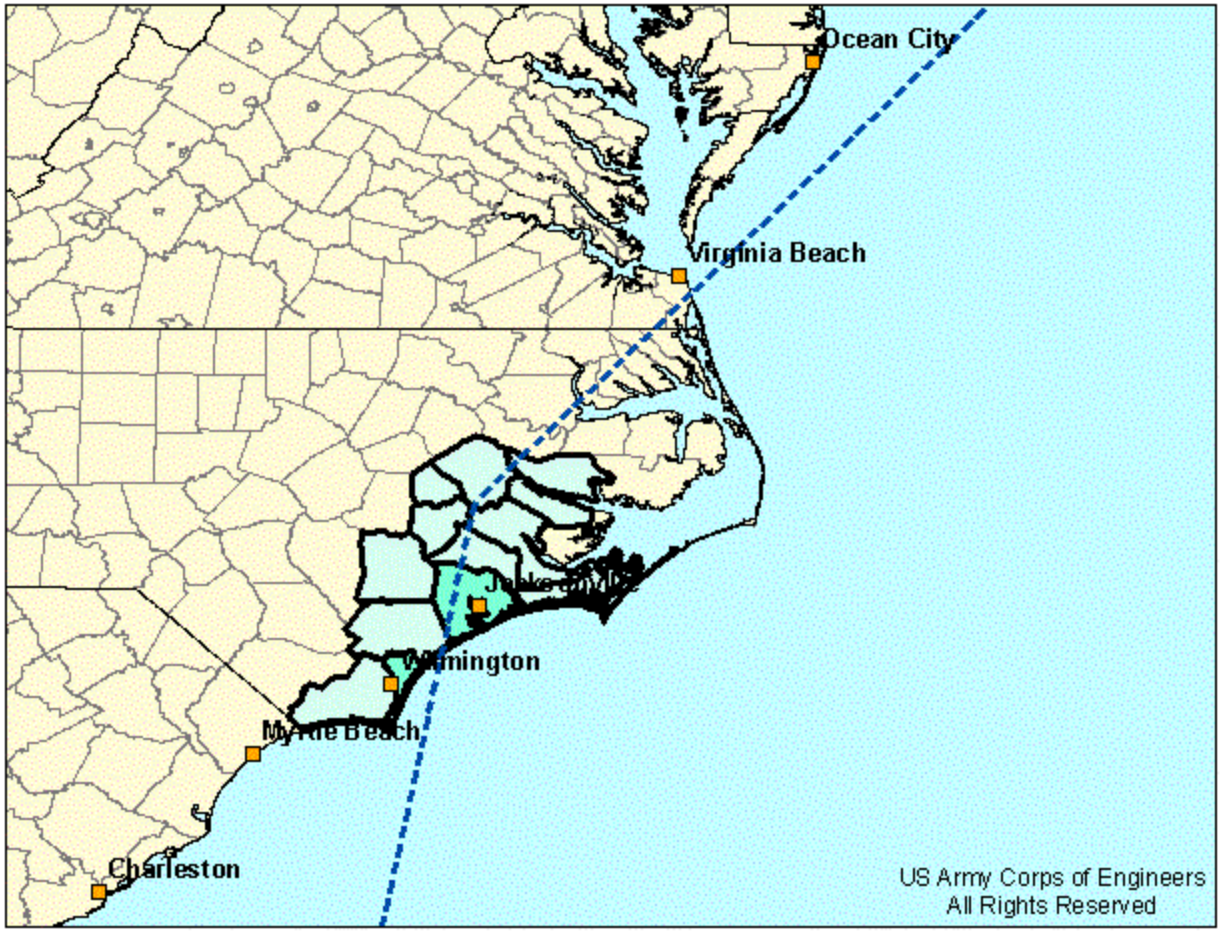
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Hanna Commodities Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!



Post Landfall Water Model Results

Day One / Day Two / Day Three
North Carolina – 6/12/25
Truckloads

Model results per County on following page

This model is based on a Category 1 storm making landfall near Topsail Beach, NC.

Forecast Track

Commodities

- < 5 Trucks Each
- 5 - 10 Trucks Each
- 11 - 20 Trucks Each
- 21 - 40 Trucks Each
- > 40 Trucks Each

Information provided on this page displays a Category 1 storm making landfall near Topsail Beach, NC. These projections are based on information from the NHC ***(1100 EDT 09/04/2008)*** forecast. The amount of commodities forecasted is based on Mission Guide Book requirements and SME input. The graphic represents single day needs with full distribution system in place and operating.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Hanna Commodities Model	
Generated By: Siemsen, LRL 1130 EDT 09/04/2008	
Sources: HURREVAC LRL-DEBRIS	Page 4 of 13

US Army Corps of Engineers

Hurricane Hanna Commodities Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
North Carolina		Beaufort	1
		Brunswick	1
		Carteret	1
		Craven	1
		Duplin	1
		Greene	1
		Jones	1
		Lenoir	1
		New Hanover	7
		Onslow	5
		Pender	2
		Pitt	3
North Carolina	25		

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested needs based on phased deployment of a commodities distribution system.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Hanna Commodities Model

Generated By:
Siemsen, LRL 1130 EDT 09/04/2008

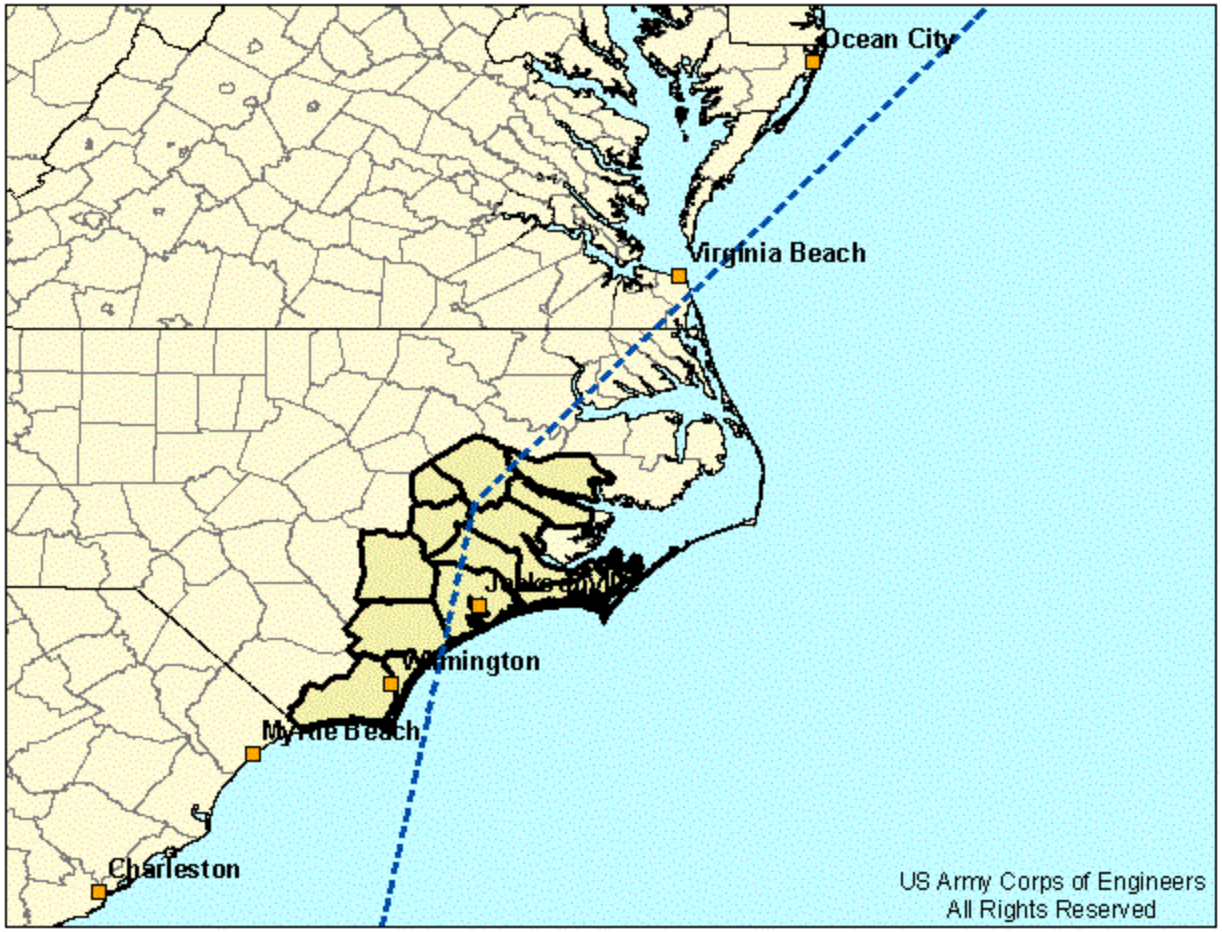
Sources:
HURREVAC
LRL-DEBRIS

Hurricane Hanna Temporary Roofing Model

US Army Corps of Engineers

Landfall Expected In About **40** Hours

For Planning Purposes Only!



Post Landfall Temporary Roofing Model Results

North Carolina - 2,200

Model results per County on following page

This model is based on a Category 1 storm making landfall near Topsail Beach, NC.

Forecast Track

Temporary Roofing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 1 storm making landfall near Topsail Beach, NC. These projections are based on information from the NHC (1100 EDT 09/04/2008) forecast. Temporary roofing is based on 2% in CAT 1.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Hanna Roofing Model	
Generated By: Siemsen, LRL 1130 EDT 09/04/2008	
Sources: HURREVAC LRL-DEBRIS	Page 6 of 13

US Army Corps of Engineers

Hurricane Hanna Temporary Roofing Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
North Carolina		Beaufort	< 100
		Brunswick	200
		Carteret	< 100
		Craven	< 100
		Duplin	< 100
		Greene	< 100
		Jones	< 100
		Lenoir	< 100
		New Hanover	300
		Onslow	900
		Pender	300
		Pitt	500
North Carolina	2,200		

Temporary roofing is based on 2% in CAT 1.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Hanna Roofing Model

Generated By:
Siemsen, LRL 1130 EDT 09/04/2008

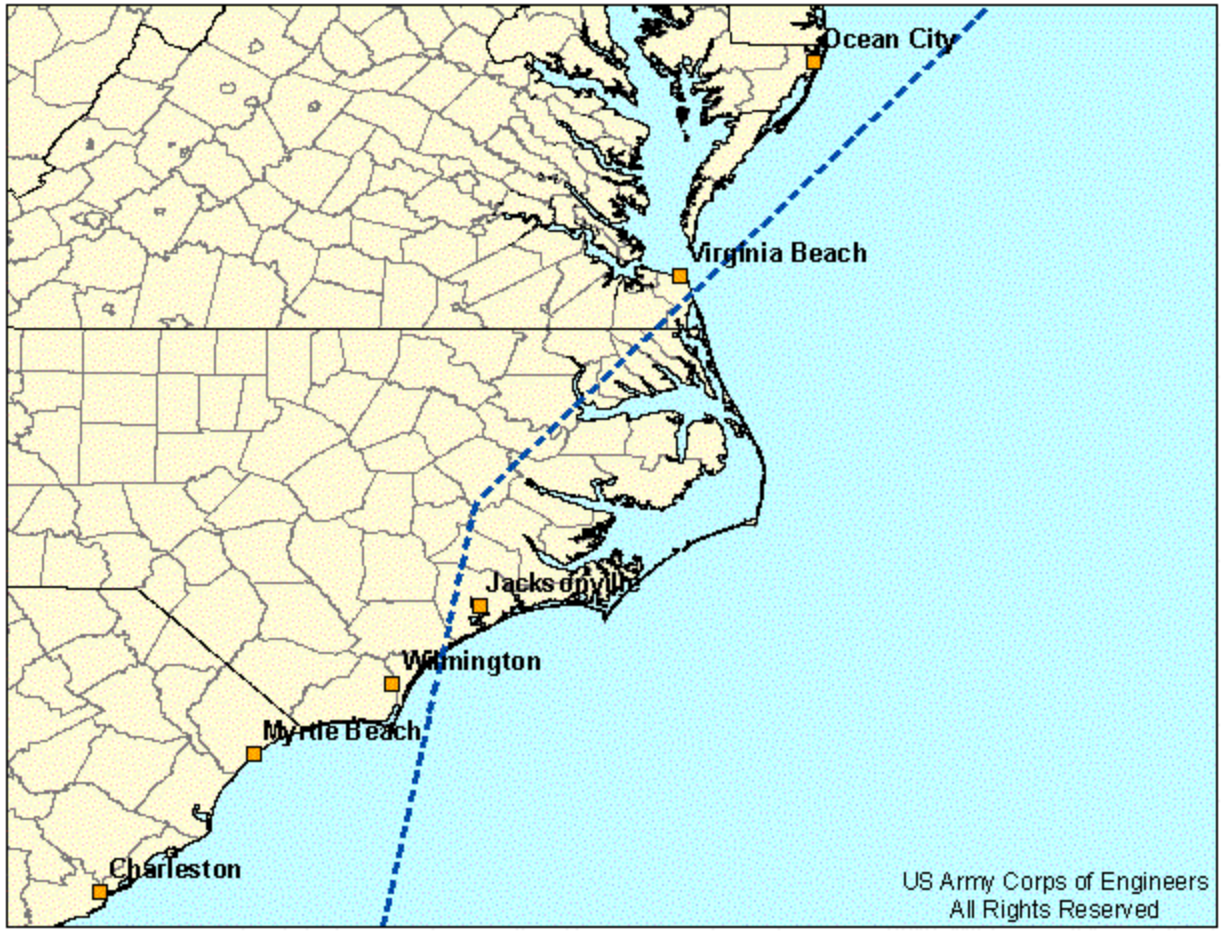
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Hanna Temporary Housing Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!



Post Landfall Temporary Housing Model Results

None Expected

Model results per County on following page

This model is based on a Category 1 storm making landfall near Topsail Beach, NC.

Forecast Track

Temporary Housing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 1 storm making landfall near Topsail Beach, NC. These projections are based on information from the NHC (1100 EDT 09/04/2008) forecast. Temporary housing is based on nothing.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Hanna Housing Model	
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Sources: HURREVAC LRL-DEBRIS	Page 8 of 13

US Army Corps of Engineers

Hurricane Hanna Temporary Housing Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County

Temporary housing is based on nothing.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Hanna Housing Model

Generated By:
Siemsen, LRL 1130 EDT 09/04/2008

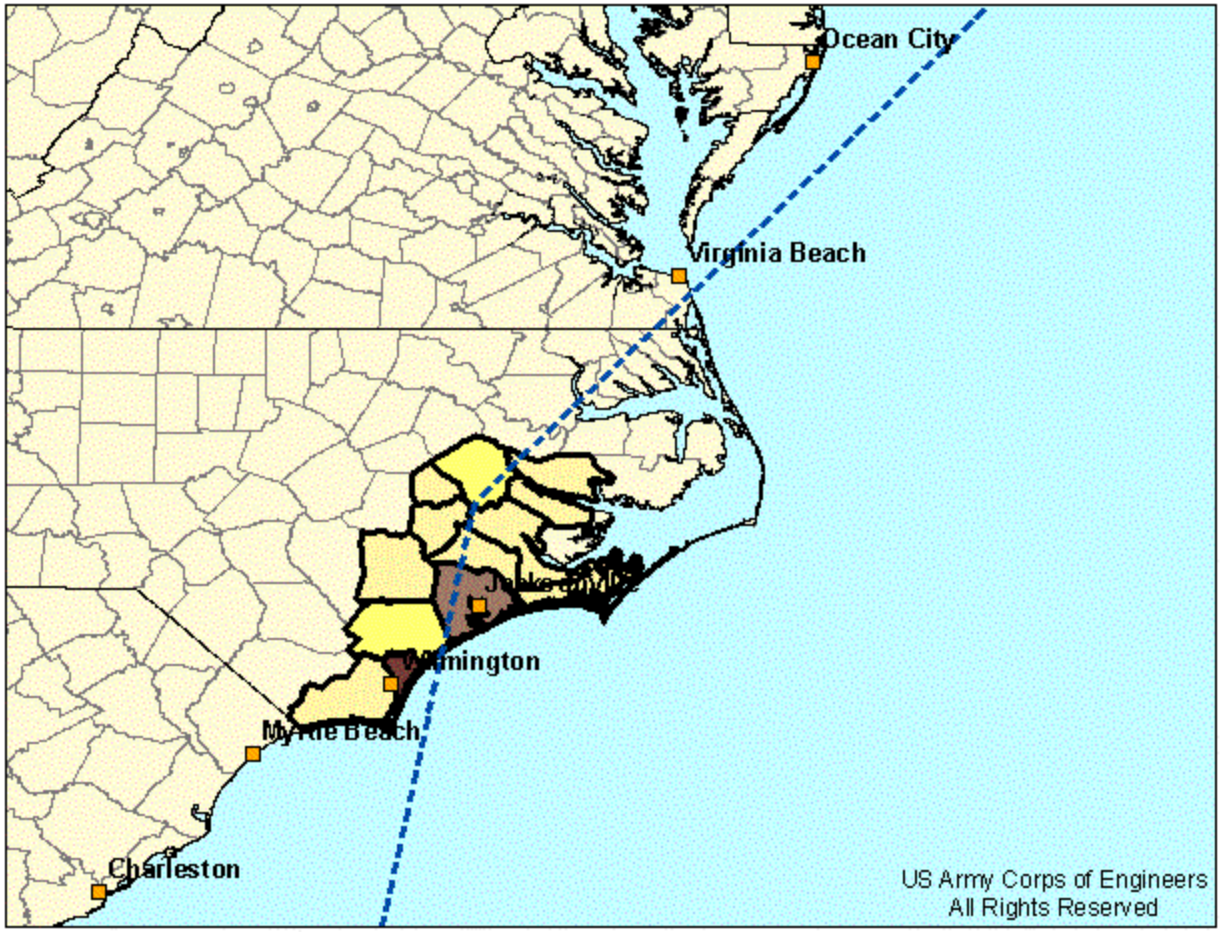
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Hanna Population Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!



Post Landfall Population Model Results

North Carolina - 484,000

Model results per County on following page

This model is based on a Category 1 storm making landfall near Topsail Beach, NC.

Forecast Track

Population

- < 25,000 persons
- 25,000 - 99,999 persons
- 100,000 - 174,999 persons
- 175,000 - 249,999 persons
- > 250,000 persons

Information provided on this page displays a Category 1 storm making landfall near Topsail Beach, NC. These projections are based on information from the NHC (1100 EDT 09/04/2008) forecast. The numbers of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2007 values).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Hanna Population Model	
Generated By: Siemsen, LRL 1130 EDT 09/04/2008	
Sources: HURREVAC LRL-DEBRIS	Page 10 of 13

US Army Corps of Engineers

Hurricane Hanna Population Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
North Carolina		Beaufort	< 1,000
		Brunswick	16,000
		Carteret	< 1,000
		Craven	7,000
		Duplin	4,000
		Greene	< 1,000
		Jones	8,000
		Lenoir	8,000
		New Hanover	189,000
		Onslow	163,000
		Pender	28,000
		Pitt	61,000
North Carolina	484,000		

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2007 values.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Hanna Population Model

Generated By:
Siemsen, LRL 1130 EDT 09/04/2008

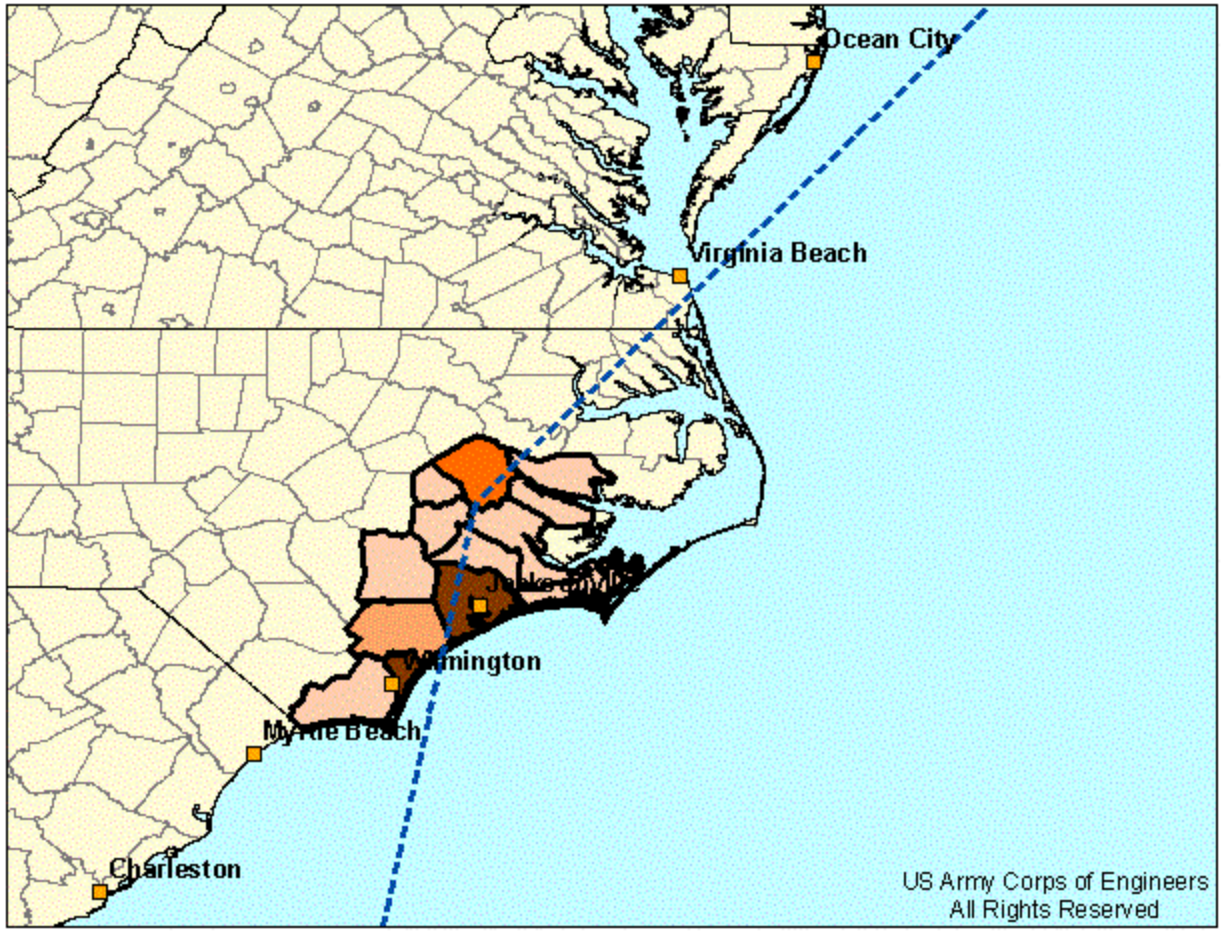
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Hanna Households Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!



Post Landfall Households Model Results

North Carolina - 189,000

Model results per County on following page

This model is based on a Category 1 storm making landfall near Topsail Beach, NC.

Forecast Track

Households

- < 7,500 households
- 7,500 - 14,999 households
- 15,000 - 24,999 households
- 25,000 - 49,999 households
- > 50000 households

Information provided on this page displays a Category 1 storm making landfall near Topsail Beach, NC. These projections are based on information from the NHC (1100 EDT 09/04/2008) forecast. The numbers of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2007 values).

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Hurricane Hanna Households Model	
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Sources: HURREVAC LRL-DEBRIS	Page 12 of 13

US Army Corps of Engineers

Hurricane Hanna Households Model

Landfall Expected In About **40** Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
North Carolina		Beaufort	< 1,000
		Brunswick	7,000
		Carteret	< 1,000
		Craven	3,000
		Duplin	2,000
		Greene	< 1,000
		Jones	3,000
		Lenoir	4,000
		New Hanover	81,000
		Onslow	52,000
		Pender	12,000
		Pitt	25,000
North Carolina	189,000		

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2007 values.

Details about this model may be obtained at http://www.enqlink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Hanna Households Model

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LRL-DEBRIS